

ABSTRACT

The present invention provides operational methods for cocatalysts in atmosphere heat treatment. The cocatalyst are dissolved or dispersed into an atmosphere material or atmosphere
5 directly or indirectly, and the cocatalyst are maintained in the form of a gas phase or a finer dispersion (such as a mote) and diffuse into the atmosphere in the heat treatment equipment or heat treatment gas-producing equipment so that the cocatalyst has the largest area contact with the atmosphere material and atmosphere and plays a part in catalysis and activation of the atmosphere in atmosphere heat treatment. Also the present invention provides a variety kind of
10 cocatalysts for atmosphere heat treatment of metal material and methods of atmosphere heat treatment.